

What is claimed is:

- 1 1. A method for determining the range of a dimensional parameter of a multiplicity of  
2 members, comprising:  
3 providing at least two sensors including a first sensor and a second sensor;  
4 fixing a set of constant distances ( $\Delta l$ ) between the sensors including at least  
5 one distance between the first sensor and the second sensor, such  
6 that the relative distances between sensors are fixed and free from  
7 adjustment during the sensors' sensing operation; and  
8 measuring the dimensional parameter based upon a ratio ( $\Delta t_2 / \Delta t_1$ ) of a first  
9 time segment ( $\Delta t_1$ ) and a second time segment ( $\Delta t_2$ ), whereby no  
10 adjustment of the relative distance between sensors is required.
- 1 2. The method of claim 1, wherein the first time segment ( $\Delta t_1$ ) is a duration of time  
2 starting when a first sensor starts recording as a fixed point of a member among the  
3 multiplicity of members, and ending when a second sensor starts recording as the  
4 fixed point of the member.
- 1 3. The method of claim 1, wherein the second time segment ( $\Delta t_2$ ) is a duration of time  
2 required for the length of a member to pass a single sensor among the at least two  
3 sensors.
- 1 4. A method for determining the range of a dimensional parameter of a multiplicity of  
2 members, comprising:  
3 providing two sensors, including a first sensor and a second sensor;  
4 fixing a constant distance ( $\Delta l$ ) between the a first sensor and a second  
5 sensor such that the relative distances between sensors are fixed and  
6 free from adjustment;  
7 moving the multiplicity of members relative to the two sensors;  
8 predetermining a point on each member;

- 9            recording a first time segment ( $\Delta t_1$ );
- 10           recording a second time segment ( $\Delta t_2$ ); and
- 11           computing a dimension of the member.

1        5. The method of claim 4, wherein the dimension of the member comprises the  
2           length of the member.

1        6. The method of claim 4, wherein the first time segment ( $\Delta t_1$ ) is the time segment from a  
2           point in which the length of member entering the first sensor range until the point is  
3           sensed by the second sensor.

1        7. The method of claim 4, wherein the second time segment ( $\Delta t_2$ ) is the time  
2           segment required for the length of the to pass a single sensor, wherein the  
3           sensor is the first sensor or the second sensor.